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AN EXPERIMENT IN MOTIVATION

E. GEORGE PAYNE

Harris Teachers College, St. Louis, Missouri

The motive which we have come to regard as so essential in the training of children becomes merely the starting-point of their education and the basis of the school study. The problem of school teaching is to acquaint the child with the life of which he is a part, to develop right concepts of it, and to establish right attitudes, habits, and ideals toward it. To this most important aim the school curriculum should be subordinated. It is the purpose of this article to indicate by an experiment the possibility of using the life of the community as a means of motivating the school work, and to give the child a knowledge of the community life of which he is to become a part, as well as an understanding of the forces underlying its organization and operation. This discussion will attempt to explain, not only how the powers of children may be developed, but how they may be developed with particular reference to the function they are later to serve in the larger social life.

During the year 1910-11 at my request I was provided with a group of about a score of boys, ranging in age from ten to fourteen years. These boys were selected from the Wyman School of St. Louis, a regular grade school serving as the observation school of the Harris Teachers College. The selection of the group was left to the principal of the school, who chose, for the most part, those indifferently interested in their school work, with the hope of arousing in them an interest in their regular school work. He also recognized that a failure to interest them would make no serious difference, as they were then uninterested.

A description of this experiment, then, will be suggestive of ways of motivating the school work and giving pupils knowledge of vital importance to their later life. The interest is not in the outcome of the experiment, but in the method of carrying it on

and in the extent to which it suggests a general solution for the training of grade children.

The plan consisted of two parts: visits to the factories of the city, and the study and discussion of the problems growing out of the visits. The factories selected to be visited were chosen with reference to a definitely worked-out plan in line with the general purpose of the experiment. The visit took place after school hours, one afternoon each week. The study and reading were left entirely to the members of the group, and the discussion took place on another afternoon of the same week after the close of school. The discussion always centered around the problems arising out of the inspection of the manufacturing processes and were of an industrial, labor, geographical, and civic nature. These problems were dealt with in so far as they were within the scope of the intelligence of the group.

The fundamental purpose of work of this kind is to restore to children during their period of training the opportunity of knowing the life of the community as children knew the community a century ago—an opportunity of which they have been deprived through the industrial revolution of the past century. In accordance with this general purpose we sought in so far as possible to have the boys arrive at a general appreciation of industry, and especially to understand the relation of individual industries to the whole social life. The following are some of the questions kept constantly in mind and asked in the study of each industry: To what extent is this enterprise essential to the life of the community? What comforts do its products afford the city, state, and nation? What are the amounts and kinds of labor used in it? The progress that had been made in the industry since the beginning of its history was always noted, and the possibilities for future development discussed. For instance, we were able to discuss the shoe industry after seeing it in its various stages of its evolution, at least through the last four centuries, at the present time in our own city. We found, indeed, in most industries opportunities to examine the handicraft stage and to compare it with machine production, noting the causes, the influences, the advantages and disadvantages of the changes.

We attempted, moreover, through this study to give a proper appreciation of the position of the laborer and the employer, and to indicate that each has a very significant service to render to the community and nation. Furthermore, this study gave opportunity to show how the development of industry has gone hand in hand with the progress of the community, and how, therefore, society, because of its development and increasing complexity, has created the demand for the articles produced in the factories. It can readily be seen that such a conception of industry properly presented could not but dignify the position of the laborer in the eyes of the boys.

More specifically our problem was to learn definitely about the industries of St. Louis, and after having done so, to regard these industries as types for the country at large. The knowledge of industry was not, however, an end in itself, but a starting-point for securing a knowledge of the social life. With this knowledge we wished to create new ideals and attitudes toward our industry and new patriotism toward our city and country. Two concrete illustrations will indicate our aims and methods. One of the institutions studied was the street-railway system and its relation to the life of the city. We began the study by a visit to the factory where the cars are built and got a glimpse of the whole process of manufacture, the length of life of cars, the number of laborers employed with the amount of wages received, the amount of skill required in each occupation, means of preventing accidents, and similar information. At the time of our visit the heating system was receiving lively consideration at the hands of the Civic League, the city council, and the newspapers, and for that reason we examined in detail the various plans of heating and ventilating street cars and the difficulties connected with each. Having learned the point of view of those connected with the system, we discussed and criticized their views at the next class meeting. In the meantime the class had had the opportunity to consider the newspaper and other discussions of the subject as a basis for class consideration.

Our next step was to take a trip to various parts of the city on the cars, following this with a discussion of the effects of street-railway transportation upon the value of real estate in the various

parts of the city, upon housing conditions, upon the distribution of residences of laborers, and many other similar questions. A fact that impressed the boys and caused much discussion and thinking was that the number of passengers carried annually had quadrupled in the last decade, with a population increase of only 19.6 per cent and no increase in street-railway mileage in the city. These points of discussion are merely illustrations of the problems considered. We considered the character, growth, and effect of the system from every point of view within the capability of the group. We tried always to raise questions, to arouse the interest of the children in them, and to stimulate permanent interests and continuous study rather than to reach finality in the discussions.

A second case was that of the bread industry. This industry afforded endless opportunity for study. We began by visiting the flour-mills in the city. This led to the study of the origin of the grain and a study of the grain-producing areas in the United States and of the world. Moreover, we attempted to make the study as human as possible by determining how the work of producing the grain was carried on; how grain was planted, reaped, threshed, stored in elevators, and brought to the mills. Here we had access to a lantern with plenty of slides, and this part of the work was presented by one of the boys in a half-hour talk from slides portraying the various phases of the industry in a highly interesting manner.

We studied, further, the methods of producing flour as compared with those of a century ago. This led us again into the bread-making industry and a comparison of it with that of the old days when "mother made the bread." We had access in this study to the factories of the simplest kind where one oven was used, to the biscuit factory where one thousand laborers were employed and the product sent to all parts of the world, and the bakery where sixty thousand loaves of bread were baked in one day. In this study there is hardly a problem of economic or social significance that the boy from ten to fourteen was not interested in and able in some degree to understand. The fact that the boys used their spending money in visiting the factories and their own time to devote to a study of these industries shows how completely the problems interested them.

The work as carried on had several marked results. If it were carried on more generally, it might be made to produce much wider consequences than resulted in this experiment. The boys of this group came gradually to realize that even common labor, if well performed, has its vital significance. Such a conception of labor, whatever one's position in life, is of vital importance in all relations of life and is necessary to the choice of a profession or vocation if one is to select wisely and judiciously. We noticed distinctly a growing appreciation of the industries and of the vocations. We entered frankly into a discussion of the various enterprises as a means of selecting those that would furnish suitable employment for young boys starting out in life, boys of the elementary schools, and, finally, the members of our group. It was decidedly interesting at first that the boys made no distinction between the various occupations as such. The single determining motive in the selection of a vocation was the ease with which they could earn a high salary or wage. In the discussion early in the year one boy said in stating his point of view: "Vaudeville actors get a fine salary, but they have a hard time, I guess. I would like to be a baseball player; why, there are six months that a fellow don't have to do nothing but have a good time."

It is seen, therefore, that each boy of the group had a motive in the pursuance of this study, and his intense interest was the result of his motive. We attempted through this motive, further, to gain a special knowledge of the various industries and the possibilities for the boys' progress in them. Consequently, salaries and wages, the kinds of employment, the preparation necessary for a person to make in order to advance most rapidly in the industry, the possibilities for its future development, and similar topics were considered. On the other hand, the discussion of these topics led to a consideration of materials used, means of production and acquisition, and in fact almost every problem in civics, economics, sociology, and geography, and even in social and industrial history within the grasp of the members of the group.

One of the most important results of the undertaking, for me and for the boys, was the opportunity for an acquaintance with the boys who made up this group. This acquaintance made it

possible to advise them in the serious problems of life—advice which some of them continue to seek. The aims, aspirations, and ideals of the boys were learned even as a father, many times, is not able to learn them in the busy life of the present. In such contact one gets at the real boy and is able to fix attitudes and points of view with regard to the most serious situations in life for him—situations outside of his actual life's work.

Since concluding this experiment I have conducted each year a course at the Harris Teachers College for teachers, having in mind the extension of work of this kind in the schools of the city. The following outline forms a basis for the study of factories, with the purpose of giving teachers the knowledge and points of view for carrying out the work successfully. The outline for the teachers assumes, at least to some extent, a broader knowledge and a comprehension of the principles underlying industry.

AN OUTLINE FOR THE STUDY OF INDUSTRIES

I. The plant visited.

A. Mechanical conditions involved in the plant.

1. Kinds of power used.
2. Recency of improvements.
 - a) Causes of improvements: that is to say, are the improvements due to legislation, to competition, to a desire to please the employees, to create public sentiment, and so on?
 - b) Results of improvements on output, cost of production, amounts and kinds of labor, etc.
3. Labor-saving devices. The effect upon:
 - a) The amount of labor required.
 - b) The kinds of labor required.
4. Comparison of the present production with that of 1808, 1840, 1860, and 1890; discuss the observations gained from this comparison.
5. Specialization of labor due to:
 - a) Kinds of labor available.
 - b) The organization of industry.
 - c) Competition in industry.
 - d) Other causes.

B. Physical condition of the plant visited; sanitation, heating, lighting, ventilation, restrooms, lunchrooms, toilet-rooms, cloakrooms.

II. Labor in the factories.

- A. Physical effect of the work upon the person engaged.
 - 1. Liability to general fatigue or physical strain.
 - 2. Liability to accident.
 - 3. Effect of the activity upon the general health of the laborer.
- B. Psychical effect upon the persons employed due to:
 - 1. Educative effect upon the laborer.
 - 2. Educational needs of the laborer for the performance of the work required.
 - 3. Social position of the laborer.
 - 4. Opportunity for rest and social intercourse in the factory.

III. The industry of which the plant visited is a part.

- A. Relation of the industry to the community; its comparative value; the recency of its development; its social function; how it has affected living conditions; the cost of living; comforts; luxuries; the necessities of life; do its products administer to all classes alike?
- B. What has been the effect of the introduction of machinery into the industry upon:
 - 1. The amount of labor?
 - 2. The hours of labor?
 - 3. Wages?
 - 4. The output?
 - 5. The cost of manufacture?
- C. Permanency of the industry; the number of employees; opportunity for, and qualifications of, persons entering.
- D. Materials used: Amount, kind, source, factors involved in bringing them together.
- E. Output: Character, where and how disposed of, general value, methods of selling.

This outline is suggestive and is carried out much more in detail in class discussion.

It has not been the purpose in this article to suggest a program. It has rather been to point out the factors involved in working out a plan in which the motive of the child is regarded. It has sought a method of making the outcome of the child's school experience of the highest value to him in his future life. This is presented with the conviction that some such plan must be followed to make the work of the school effective in the lives of present-day school children. This plan is concerned much more with children than it is with subject-matter. I have no quarrel with the subject-matter, but I am concerned with making the knowledge function in the lives of growing children.